THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EUGENE K. ACHTER, DIRK APPEL, DAVID H. FINE, FREEMAN W. FRAIM and STEPHEN J. MACDONALD

Appeal No. 96-0760
Application No. 08/051,210[1]

HEARD: November 3, 1998

Before SOFOCLEOUS, KIMLIN and WEIFFENBACH, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

---

[1] Application for patent filed April 22, 1993. According to appellants, this application is a continuation-in-part of Application No. 07/890,863, filed June 1, 1992, now U.S. Patent No. 5,352,611, issued October 4, 1994.

This is an appeal from the final rejection of claims 1-5. Claim 6, the other claim remaining in the present application, has been allowed by the examiner. Claim 1 is illustrative:

1. A system for sampling and determining presence of certain contaminants including nitrogen containing compounds and aromatic hydrocarbons in items moving seriatim past a test station comprising:

means for directing fluid into proximity with said item as it reaches said test station to displace vapors of contaminants;

means for evacuating a sample of vapors so displaced from the item by the fluid by applying suction thereto;

means for splitting the evacuated sample into first and second portions;

a chemiluminescence detector for analyzing the first portion of the sample to determine presence or absence of contaminants of nitrogen containing compounds;

said chemiluminescence detector including,

means for heating the first portion of the sample evacuated;

means for mixing the heated sample portion with ozone to cause a chemical reaction therewith in order to generate chemiluminescence of the reactants; and

means for optically analyzing said chemiluminescence to determine the presence or absence of said certain contaminants;

means for illuminating the second portion of the sample with radiant energy to generate fluorescence in the sample; and

means for analyzing said fluorescence to determine presence or absence of aromatic hydrocarbon contaminants in the sample.

The examiner relies upon the following references as evidence of obviousness:

Bruening et al. (Bruening)	4,193,963	Mar. 18, 1980
Tanaka et al. (Tanaka)	4,469,946	Sep. 4, 1984
Thomas	4,541,269	Sep. 17, 1985
Tsuji	4,705,669	Nov. 10, 1987

Appellants' claimed invention is directed to a system and method for sampling and determining the presence of nitrogen-containing and aromatic contaminants in items such as containers. The system entails a means for directing fluid, such as air, into the proximity of the item to displace vapors of the contaminants. According to appellants:

> It is a discovery of the present invention that if one doesn't first direct fluid jets at items such as bottles, flaked plastic material or the like moving along a conveyor that the processing speed is substan-tially slowed because it would be necessary, when applying suction alone to the item at the test station, to apply that suction for much longer periods of time in order to get a sufficient level of gas to create a meaningful sample signal. [Page 3 of principal brief].

In addition, the claimed system employs the combination of a chemiluminescence detector and a pulsed fluorescence detector,

the former to detect nitrogen-containing compounds and the latter for detecting aromatic hydrocarbons.

Appellants submit at page 5 of the principal brief that appealed claims 1, 2, 4 and 5 may be grouped together whereas claim 3 should be separately considered on its own merits. Accordingly, appealed claims 1, 2, 4 and 5 stand or fall together.

Appealed claims 1 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Myers in view of Bruening, Tsuji and Thomas. Claims 2-4 stand rejected under 35 U.S.C. § 103 as being unpatentable over the stated combination of references in further view of Tanaka.

We have carefully considered the respective positions advanced by appellants and the examiner. In so doing, we find ourselves in complete agreement with the examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art in view of the applied prior art. Accordingly, we will sustain the examiner's rejections for the reasons set forth in the Answer, which we incorporate herein, and we add the following primarily for emphasis.

At the outset, since, with the exception of claim 3, all the appealed claims stand or fall together, we will limit our discussion to the examiner's rejection of claim 1.

We concur with the examiner that the system defined by claim 1 on appeal would have been obvious to one of ordinary skill in the art in view of the collective teachings of Myers, Bruening, Tsuji and Thomas. In re Keller, 642 F.2d 413, 426, 208 USPQ 871, 882 (CCPA 1981). As explained by the examiner, Myers, like appellants, discloses a system for sampling and determining the presence of nitrogen-containing and aromatic contaminants in items, such as bottles, by directing fluid into the item to displace vapors of the contaminants and, subsequently, evacuating a sample of the displaced vapors for analytical testing. While Myers does not disclose the claimed "means for splitting the evacuated sample into first and second portions," we agree with the examiner that it would have been obvious for one of ordinary skill in the art to do so in view of the Tsuji disclosure, which specifically teaches a means for dividing the flow of a sample gas into a plurality of samples for detection and analysis. Also, although Myers discloses the use of various ionization techniques to detect,

inter alia, nitrogen-containing and aromatic volatile contaminants, Bruening evidences that it was known in the art to employ the claimed chemiluminescence analysis to detect nitrogen-containing contaminants, and Thomas discloses the use of appellants' means for fluorescent analysis to determine the presence of aromatic hydrocarbon contaminants. Consequently, we are persuaded that one of ordinary skill in the art would have found it obvious to employ the known detection systems of Bruening and Thomas to test separate sample streams for the presence of nitrogen-containing compounds and aromatic hydrocarbon compounds, respectively, in one combined system. We note that appellants have not presented any objective evidence which establishes that the claimed system, comprising a combination of known analytical systems, produces any unexpected result.

Appellants set forth the following argument at page 6 of the principal brief:

> The Examiner also takes the position that a second sample cloud egresses from the container sidewalls and the bottom thereof and that this egression of volatiles is caused by the original injection of fluid which purged the beverage volatiles from the container. It is respectfully submitted that this is a distorted interpretation of the operation of the Myers method and apparatus. It is simply

> incorrect to conclude that the materials which egress from the sidewalls of the containers in Myers, namely, the volatiles which the Examiner characterizes as a second sample cloud, are in any way generated by the injection of fluid. There are two separate steps in Myers. In the first step beverage volatiles are removed by the injection of the fluid into the container; and in a second separate step sample volatiles egress from the sidewalls of the container and are analyzed.

While we essentially agree with appellants' description of the Myers process, we also agree with the examiner that the relevant means defined in appealed claim 1 "read on" the Myers process. When we impart to the claim language its broadest reasonable interpretation, we concur with the examiner that Myers' fluid injection into the container meets the claimed "means for directing fluid into proximity with said item . . . to displace vapors of contaminants" by initially removing all volatiles within the container such that "the volatiles from the contaminant residue are again released" (column 2, lines 23-25). Furthermore, Myers' disclosure of a vacuum to draw a sample of the released volatiles meets the claimed "means for evacuating a sample of vapors so displaced . . . by applying suction thereto."

Hence, we find the examiner's position to be reasonable that Myers' means for directing fluid effects the displacement of

vapors of contaminants that are evacuated as a sample by the application of suction. Moreover, we are convinced that it would have been a matter of obviousness for one of ordinary skill in the art to analyze the initial volatiles driven off by Myers with the expectation that the presence of volatiles derived from beverage residue would have to be taken into account. We observe that appealed claim 1 is sufficiently broad to encompass systems wherein the sample of vapors subjected to analysis comprises both volatiles derived from the beverage residue and volatiles derived from nitrogen-containing and aromatic contaminants.

Appellants also contend that "the sampling in the Myers system is not continuous or rapid . . ." (page 7 of principal brief). However, as correctly pointed out by the examiner, appellants' argument is not germane to the claimed subject matter inasmuch as appealed claim 1 does notDecember 15, 1998m as continuous or as having any specific speed of operation.

Regarding separately argued claim 3 which recites a first filter for selectively passing radiation of about 205 nanometers into the cell, and a second filter for selectively passing fluorescent radiation of about 320 nanometers from the

cell to a photodetector, appellants have not refuted the examiner's factual determination that Tanaka teaches as much at column 2, lines 15-60 (see page 6 of Answer, first full paragraph). Indeed, we find no substantive discussion of Tanaka in appellants' principal and reply briefs on appeal. In addition, we find appellants' discussion of Thomas with respect to claim 3 to be adequately answered by the examiner in the paragraph bridging pages 8 and 9 of her Answer.

As a final point, we emphasize that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

MICHAEL SOFOCLEOUS Administrative Patent Judge	)	
EDWARD C. KIMLIN Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
CAMERON WEIFFENBACH Administrative Patent Judge	)	

clm

Birch, Stewart, Kolasch & Birch
P.O. Box 747
Falls Church, VA 22040-0747